

REMARKS/ARGUMENTS

General Remarks

The applicant appreciates the Office's reversal of the prior restriction requirement in view of applicant's earlier remarks. Claims 1-10 have been re-labeled accordingly.

The office further noted that the application would not include an abstract as required under 37 CFR 1.72(b). An abstract on a separate page has been submitted with the application as originally filed in the International phase as indicated on the miscellaneous internal document dated May 19, 2006. However, a review of the file wrapper at PAIR does not reflect the scanned abstract. Therefore, the applicant submits the abstract as originally filed and requested by the examiner.

The subject matter of the various claims was commonly owned at the time the invention was made.

35 USC § 103

Claims 1-20 were rejected under 35 USC § 103(a) as being obvious over Steacy (U.S. Pat. No. 6,558,515) with or without Shinskey (U.S. Pat. No. 4,358,346). The applicant respectfully disagrees, especially in view of the amendments herein.

As amended herein, claims 1 and 11 expressly require that the *differential vapor pressure cell measures a concentration of the first component at the level below the point where the feed enters the column*. Such measurement is neither contemplated, nor appreciated by Steacy, and it should be noted that Shinskey fails to remedy these defects as the '346 patent teaches separation of binary mixtures using conventional distillation columns.

Furthermore, as can be readily taken from Shinskey's teaching (*e.g.*, col 2, ln 2-8), the differential pressure measurement devices measure the pressure above and below the top tray of each section to so allow for a determination of the liquid level on the top tray. Regulation of the liquid level is then used to regulate flow of vapor through the respective sections of the column. Such control scheme is entirely inconsistent with the presently claimed subject matter. Thus, two significant differences exist: First, the vapor pressure cell in the '346 patent does not measure the

concentration of the first component, but the pressure differential of the vapor flow (comprising first and second components). In other words, *Steacy's pressure cell measures hydrodynamic pressure, whereas the DVP cell of measures vapor pressure of a fluid within the cell.* Second, it is noted that Steacy's pressure sensor is disposed on the top tray of each section. In contrast, the DVP cell of the claims is located below the feed point of the ternary mixture. Such location is of significance as under ordinary operating conditions the first component should not travel in any significant quantities to a point below the feed as the first portion is in the rising vapor. Again, Steacy uses the pressure sensor to determine the liquid level on the top tray, which in turn controls the flow of the vapor having first and second components. Such system is entirely different from the presently claimed system in which the first component concentration is measured below the feed point of the ternary feed.

Consequently, in light of the above amendments and arguments, the applicant believes that the rejection of claims 1-20 should be overcome.

Request For Allowance

Claims 1-20 are pending in this application. The applicant requests allowance of all pending claims.

Respectfully submitted,
Fish & Associates, PC

Date: 8/11/2009

By /Martin Fessenmaier/
Martin Fessenmaier, Ph.D.
Reg. No. 46697

Fish & Associates, PC
2603 Main Street, Suite 1050
Irvine, CA 92614
Telephone (949) 253-0944
Fax (949) 253-9069